

## **REMARKS/ARGUMENTS**

### **Amendments in the Specification**

On page 1, the first paragraph has been amended to recite the correct filing date of the provisional application. The error was inadvertent.

### **Amendments in the Claims**

Claims 22 and 25 have been amended to correctly recite "of said wavelength bands." There is no new matter added by means of the amendments.

### **Claim Rejections**

Claims 1-2, 7-12, 17-20, 22-23 and 25 were rejected under 35 U.S.C 103(a) as being unpatentable over Clarke (U.S. Patent No. 5,239,180A) and Mendelson (Spectroscopy 1990, Vol. 37).

Applicants respectfully submit that combining Clarke and Mendelson is improper for the following reasons:

First, there is no suggestion or motivation to combine the references. The references disclose two distinct systems. Clarke discloses systems and methods which are based on measurement of the intensity of light reflected by the food material at a plurality of discrete wavelengths (col. 1, lines 55-58). Clark requires a reflection ratio analyzer configured to determine a reflection ratio for at least two of the detected wavelengths such that the ratio can be compared with predetermined values (col. 2, lines 15). Clarke discloses the wavelength range from 500 nm to 2000 nm (col. 2, lines 24-25).

In contrast, Mendelson discloses a method for determining blood glucose concentration based on measurement of infrared (IR) absorption (see page 461, Result; and Fig. 7), not light reflection. Although Mendelson shows a spectrum of IR absorption over a range of wavelength, Mendelson's system utilizes a single selected operating wavelength, of 9.676  $\mu\text{m}$  (see Fig. 4, and page 460, col. 1, first full paragraph). Mendelson does not teach using more than one selected operating wavelength to derive at the glucose concentration. It is further noted that Mendelson's selected IR wavelength does not fall

within the wavelength range used by Clark. Since Clark and Mendelson's systems have conflicting requirements and there is nothing to indicate that either system would be more versatile if combined, therefore, there is no desirability to combine the references.

Second, the combined references do not teach all the elements of claims 1-2, 7-12, 17-20, 22-23 and 25. The Examiner is correct in stating that Clarke does not teach "said number of said selected wavelength bands equal to  $n-1$  or less." However, Applicants respectfully disagree with the conclusion that Mendelson discloses measuring concentration in a sample with the number of selected wavelength bands being equal to  $n-1$  or less. The Examiner has pointed to Fig. 4 to support this conclusion. However, Applicants submit that Fig. 4 simply shows the IR ATR spectrum of whole blood containing glucose recorded by a spectrophotometer, after the ATR spectrum of distilled water was automatically subtracted. The graph shown in Fig. 4 shows a plurality of peaks and valleys spanning between wave numbers slightly below  $1400\text{ cm}^{-1}$  and slightly above  $900\text{ cm}^{-1}$ , but does not show or define the set or the number " $n$ " of wavelength regions corresponding to absorption bands of the organic substance, as described in the present claims. There is nothing in Fig. 4 that teaches or discloses that the number of selected wavelength being " $n-1$  or less". In fact, Mendelson teaches only "1" selected operating wavelength (of  $9.676\text{ }\mu\text{m}$ ) (see Fig. 4, and page 460, left col., first full paragraph).

Finally, if Mandelson's number of selected wavelength of "1" is interpreted as being the same as " $n-1$  or less", then combining Clarke and Mendelson will render Clark's system unsatisfactory because Clarke's system requires the reflectance ratio of at least two wavelengths to correlate with the concentration of analytes. (see above discussion). Moreover, the whole system of Clark will have to be reconfigured. For example, the detecting device will have to be configured to measure absorbance intensity, instead of the reflectance, and the analyzer will have to be reconfigured to calculate absorbance ratio and make comparisons with predetermined (absorbance) values.

The Examiner rejects claims 22-23 and 25 concluding that Clarke teaches all the elements of the claims. Applicants respectfully disagree because, as discussed above, Clarke discloses a method based a comparison of reflecting ratios and not based on absorbance intensity measured at a selected number of wavelength bands. It would not be

obvious to one skilled in the art to modify Clarke's method to contain all the elements of claims 22-23 and 25. For instance, Clarke does not disclose "selecting a number of said wavebands of said infrared electromagnetic radiation, wherein (i) each of said selected wavelength bands substantially corresponds to one of said wavelength regions." Clarke only teaches "producing lights at distinct wavelengths, spanning at least a portion of a spectrum from about 500 nm to about 200 nm." (col. 2, lines 22-24). Clarke does not disclose "detecting the intensity of only (i) said subset of said selected wavelength bands absorbed by said organic substance contained within said food product with a detection system and (ii) said number of reference wavelength bands". Instead, Clarke discloses detecting reflecting light at a plurality of discrete wavelengths (col. 1, lines 55-58).

Accordingly, based on the aforementioned reasons, Applicants submit that *a prima facie* case for obviousness has not been established, and the rejections of claims 1-2, 7-12, 17-20, 22-23 and 25, based on combining Clarke and Mendelson, should be withdrawn.

Claims 3-6 were rejected under 35 U.S.C 103(a) as being unpatentable over Clarke (U.S. Patent No. 5,239,180A) and Mendelson (Spectroscopy 1990, Vol. 37) as applied to claim 1 and further in view of Passaloglou-Emmanouillidou (1990).

Because combining Clarke and Mendelson is improper as discussed above, the rejection of claim 1 and all dependent claims should be withdrawn. Claims 3-6 depend from claim 1, therefore the rejection of claims 3-6 based on Clarke and Mendelson in view of Passaloglou-Emmanouillidou (1990) should also be withdrawn. Further, there is nothing in any reference that motivates the combination of the references. Passaloglou-Emmanouillidou (1990) discloses a UV range of wavelength (Fig. 1A, B) and Mendelson uses an infrared range of wavelength. Combining the three references will not derive at the method of claims 3-6, because neither references disclose the recited ranges of wavelength bands.

Accordingly, the rejections of claims 3-6 should be withdrawn.

Application No. 10/616,564  
Response/Amendment  
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Claims 13-16 were rejected under 35 U.S.C 103(a) as being unpatentable over Clarke (U.S. Patent No. 5,239,180A) and Mendelson (Spectroscopy 1990, Vol. 37) as applied to claim 12, and further in view of Lefier et al, 1996.

Based on the foregoing discussion, combining Clarke and Mendelson is improper, therefore the rejections of claims 13-16 based on the combined references are improper.

Claims 21 and 24 were objected to as being dependent upon a rejected based claim, but would be allowable if rewritten in independent form.

In view of the above arguments, Applicants submit that independent claims 17 and 22 should be allowed. Therefore, the objections of claims 21 and 24 should be withdrawn.

#### **CONCLUSION**

Applicants believe that the application is in condition for allowance. Withdrawal of the rejections and passage of the application to issuance is respectfully requested.

Respectfully submitted,



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